

ABSTRACT OF THE DISCLOSURE

A composition comprising particulate carbonaceous material and a sulfonated conducting polymer containing hetero atoms. The composition can further comprise a metal. Devices comprising the composition can be constructed including supported electrocatalysts, membrane electrode assemblies, and fuel cells. A method for preparing the composition comprises oxidatively polymerizing with ozone a monomer of a conducting polymer containing hetero atoms in the presence of a carbonaceous material and sulfonating the polymer or the monomer. The method grafts the sulfonated conducting polymer to the carbonaceous material. The method can further comprise metallizing the polymer-grafted carbonaceous material.